

## WinGD and Panasia to deliver emissions upgrades for X-DF dual-fuel LNG engines

Swiss marine power company WinGD has signed a frame agreement with Panasia to upgrade X-DF dual-fuel LNG engines in service with the latest emissions abatement and fuel efficiency technology from WinGD. The frame agreement, signed during Kormarine 2025, will support ship operators in reducing their cost exposure to maritime carbon pricing, keeping existing vessels competitive for longer.

Panasia is a well-established marine technology developer and already acts as a system integrator for several shipyards. Its technical capabilities and understanding of specific vessel configurations will support WinGD in delivering timely and cost-effective retrofit projects that offer the best possible return on investment through lower fuel consumption and reduced emissions penalties.

WinGD brings unique product expertise to its retrofit projects, as the original designer of an engine platform that is under continuous development. Using its strong supplier and project partner network, WinGD provides a one-stop-shop for fuel conversions and energy efficiency upgrades, helping engine users to improve efficiency, reduce emissions and optimise operational costs.

WinGD Head of Retrofit & Upgrade Solutions René Baart said: “Korea has been the biggest market for X-DF engines since they were introduced in 2016. It was therefore natural that we start here as we aim to upgrade our installed base to the latest efficient technologies. We are delighted to have found a partner, in Panasia, with so much expertise in the equipment and system integration of both Chinese and Korean built vessels.”

The partnership will initially focus on solutions that allow X-DF engines already installed on vessels to deliver the same fuel consumption, emissions and low methane slip as WinGD's latest newbuild engines. Retrofit options include intelligent control by exhaust recycling (iCER) and variable compression ratio (VCR) technology, effectively converting X-DF engines to X-DF2.0 engines.

While iCER uses exhaust recycling to improve combustion stability when using LNG, VCR technology increases fuel efficiency by automatically optimising compression ratio depending on the fuel used and engine load. When combined, iCER and VCR technologies can reduce methane slip to around 0.7% of fuel gas volume—a more than twofold reduction compared to first-generation X-DF engines. Alongside significant fuel consumption reductions, improved methane slip dramatically reduces the cost of compliance with European and proposed IMO regulations.

Panasia Head of Sales division Joseph Ohg said: “This agreement builds on our strong system integration capabilities developed through supporting newbuild projects, and will allow us to deliver X-DF upgrades alongside our current ballast water treatment, scrubber and other retrofits for existing vessels. In partnership with WinGD we are looking forward to revisiting many of those vessels to ensure they can benefit from the advantages of cutting-edge dual-fuel LNG technology.”

WinGD and Panasia are already engaged in retrofit discussions with multiple ship owners. As previously reported, WinGD has already completed the first retrofit of its VCR technology on a vessel operated by CMA CGM, with strong initial results presented at CIMAC World Congress in June.

**ENDS**

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**WinGD in brief**

WinGD advances the decarbonisation of marine transportation through sustainable energy systems using the most advanced technologies in emissions reduction, fuel efficiency, hybridisation and digital optimisation. With their two-stroke low-speed engines at the heart of the power equation, WinGD sets the industry standard for reliability, safety, efficiency, and environmental design - supported by Global Service by WinGD, which delivers tailored 24X7 lifecycle engine support through Swiss engineering excellence, dependable maintenance, rapid global response, and genuine parts to keep engines performing at their best. Wärtsilä Services Switzerland Ltd remains an authorised global service provider.

Headquartered in Winterthur, Switzerland since its origin as the Sulzer Diesel Engine business in 1893, today it is powering the transformation to a sustainable future.

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